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Notice of Allowability	Application No.		Applicant(s)	
	10/816,727		KWON ET AL.	
	Examiner		Art Unit	
	Toan Le		2824	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to _____.
2. ☒ The allowed claim(s) is/are 1-21.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

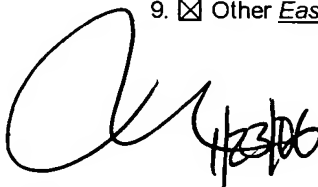
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>4/02/04</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input checked="" type="checkbox"/> Other <u>East search history</u> . |



RICHARD ELMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

Examiner's amendment

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

In claim 10, line 9: after "**the node**" delete -- **D** --.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Michael Shenker on January 18, 2006.

DETAILED ACTION

Information Disclosure Statement

2. This office acknowledge receipt of the following items from the Applicant:
Information Disclosure Statement (IDS) filed on April 02, 2004.
3. Information disclosed and list on PTO 1449 was considered.

Allowable Subject Matter

4. Claims 1-21 are allowable over the art of record.
5. The following is an examiner's statement of reasons for allowance: There is no suggestion or teaching in the art of record to provide a memory circuit comprising a node for serially providing data read out of memory cells or an input/output terminal; M stages $S_1, \dots S_M$

Art Unit: 2824

for holding sets of N data bits ($D_0, D_1, \dots D_{N-1}$), wherein the stage S_{M-1} is responsive to one or more of a first clock signals to provide the data bit D_0 of each set to the node or the terminal, and the stage S_{M-1} is responsive to one or more of a second clock signals for serially providing the data bit $D_1, \dots D_{N-1}$ to the node or the terminal, in combination with the remaining claimed limitations as recited in the independent claims 1 and 13, nor is there suggestion or teaching to provide a method for reading data from a memory comprising transferring data bits ($D_0, D_1, \dots D_{N-1}$) in parallel responsively to one or more first clock signals from a stage S_{M-1} , with the bit D_0 being transferred to a node for serially providing the data bits, and with the bits ($D_1, \dots D_{N-1}$) being transferred to a stage S_M ; then serially transferring the data bits ($D_1, \dots D_{N-1}$) from the stage S_M to the node responsively to one or more second clock signals, in combination with the remaining claimed limitations as recited in the independent claim 10.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lee (U.S. 6,914,829) discloses an output multiplexing circuit for a double data rate synchronous memory device.

Kwean (U.S. 6,909,643) discloses a data strobe circuit for prefetching a plural bit data.

Keeth et al. (U.S. 6,882,579) disclose parallel data bits being transferred from an array to parallel-to-serial converters.

Kyung et al. (U.S. 6,549,444) disclose a memory device with prefetched data ordering distributed in prefetched data path logic.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Toan Le whose telephone number is (571) 272-1872. The examiner can normally be reached on M-F (8.00AM - 5.30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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January 18, 2006